DETAILED ACTION

This communication is responsive to Applicant Arguments/Remarks filed 12/12/2011. Claims 1-23 are currently pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-4, 6, 9, 15, 17-18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. (US 6,266,109) in view of Someya et al. (US 7,034,788).

In reference to claim 1, Yamaguchi teaches a display apparatus, comprising display elements including a medium injected and sealed between a pair of substrates at least one of which is transparent (Yamaguchi, col. 11, ll. 39-46),

the medium changing in magnitude of optical anisotropy upon application of voltage (Yamaguchi, Abstract; col. 1, ll. 45-50),

each of the display elements containing colors required to produce a color image display, so as to produce a color image display (Yamaguchi, col. 1, ll. 9-12).

different voltages being applied to the display elements so as to display the colors required to produce a color image display, applied to electrodes across said pair of substrates (Yamaguchi, Abstract; col. 1, ll. 9-12).

Yamaguchi however fails to teach different voltages being applied to the display elements so as to display the colors required to produce a color image display with an identical gradation, wherein voltages differing in voltage values are applied, so that a first color corresponding to a first voltage has a first gradation and a second color different from said first color corresponding to a second voltage different from said first voltage has said first gradation to correct a wavelength dispersion of said optical anisotropy of the medium.

Someya discloses an image data processing device, analogous in art with that of Yamaguchi, comprising different voltages being applied to the display elements so as to display the colors required to produce a color image display with an identical gradation (Someya, col. 3, ll. 42-col. 4, ll. 3, voltage for correcting an image data representing a

gray-scale level of an image to be displayed; col. 6, ll. 44-67, higher voltage and corrected voltages; col. 10, ll. 34-64, application voltage to correct an image transmittance; col. 45, ll.19-28, red, green and blue color),

wherein voltages differing in voltage values are applied, so that a first color corresponding to a first voltage has a first gradation and a second color different from said first color corresponding to a second voltage different from said first voltage has said first gradation, wherein the first voltage and the second voltage are selected according to transmittance of said optical anisotropy of the medium that corrects wavelength dispersion (Someya, col. 18, ll. 35-39, correction voltages; col. 3, ll. 42-col. 4, ll. 3, voltage for correcting an image data representing a gray-scale level of an image to be displayed; col. 15, ll. 28-col. 16, ll. 8, applied voltage to correct transmittance, therefore, wavelength dispersion).

At the time the invention was made it would have been obvious to one having ordinary skill in the art to modify the image display device of Yamaguchi to comprise different voltages being applied to the display elements so as to display the colors required to produce a color image display with an identical gradation, wherein voltages differing in voltage values are applied, so that a first color corresponding to a first voltage has a first gradation and a second color different from said first color corresponding to a second voltage different from said first voltage has said first gradation to correct a wavelength dispersion of said optical anisotropy of the medium, as taught by Someya.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to optimize a change in transmittance of a liquid crystal display (Someya, col. 1, ll. 8-20).

Claim 3 is rejected as being dependent on rejected claim 1 as discussed above and further, Yamaguchi as modified by Someya teaches wherein the colors required to produce a color image display are three colors of RGB (Yamaguchi, col. 13, ll. 37-40).

In reference to claim 4, Yamaguchi teaches a display apparatus, comprising: display elements including a medium injected and sealed between a pair of substrates at least one of which is transparent (Yamaguchi, col. 11, ll. 39-46),

the medium changing in magnitude of optical anisotropy upon application of voltage (Yamaguchi, Abstract; col. 1, ll. 45-50),

each of the display elements containing colors to produce a color image display, so as to produce a color image display (Yamaguchi, col. 1, ll. 9-12),

and wherein the medium exhibits optical isotropy in absence of an electric field and exhibits optical anisotropy under applied voltage (Yamaguchi, col. 3, ll. 21-35).

Yamaguchi however fails to teach different voltages being applied to the display elements so as to display the colors required to produce a color image display with an identical gradation, wherein voltages differing in voltage values are applied, so that a first color corresponding to a first voltage has a first gradation and a second color different from said first color corresponding to a second voltage different from said first

voltage has said first gradation, wherein the first voltage and the second voltage are selected according to a transmittance of said optical anisotropy of the medium that corrects wavelength dispersion.

Someya discloses an image data processing device, analogous in art with that of Yamaguchi, comprising different voltages being applied to the display elements so as to display the colors required to produce a color image display with an identical gradation (Someya, col. 3, ll. 42-col. 4, ll. 3, voltage for correcting an image data representing a gray-scale level of an image to be displayed; col. 6, ll. 44-67, higher voltage and corrected voltages; col. 10, ll. 34-64, application voltage to correct an image transmittance; col. 45, ll.19-28, red, green and blue color),

wherein voltages differing in voltage values are applied, so that a first color corresponding to a first voltage has a first gradation and a second color different from said first color corresponding to a second voltage different from said first voltage has said first gradation, wherein the first voltage and the second voltage are selected according to transmittance of said optical anisotropy of the medium that corrects wavelength dispersion (Someya, col. 18, ll. 35-39, correction voltages; col. 3, ll. 42-col. 4, ll. 3, voltage for correcting an image data representing a gray-scale level of an image to be displayed; col. 15, ll. 28-col. 16, ll. 8, applied voltage to correct transmittance, therefore, wavelength dispersion).

At the time the invention was made it would have been obvious to one having ordinary skill in the art to modify the image display device of Yamaguchi to comprise different voltages being applied to the display elements so as to display the colors

required to produce a color image display with an identical gradation, wherein voltages differing in voltage values are applied, so that a first color corresponding to a first voltage has a first gradation and a second color different from said first color corresponding to a second voltage different from said first voltage has said first gradation to correct a wavelength dispersion of said optical anisotropy of the medium, as taught by Someya.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to optimize a change in transmittance of a liquid crystal display (Someya, col. 1, ll. 8-20).

Claim 6 is rejected as being dependent on rejected claim 1 as discussed above and further, Yamaguchi as modified by Someya teaches wherein the medium is comprised by molecules having an ordered structure less than optical wavelengths either under applied voltage or in absence of applied voltage (Yamaguchi, col. 9, ll. 51-58).

Claim 9 is rejected as being dependent on rejected claim 1 as discussed above and further, Yamaguchi as modified by Someya teaches wherein the medium is comprised by a liquid crystal microemulsion (Yamaguchi, col. 5, ll. 24-40; col. 6, ll. 45-64).

In reference to claim 15, Yamaguchi teaches a display element in a display apparatus, comprising a plurality of display elements (Yamaguchi, col. 11, ll. 39-46),

each display element containing colors required to produce a color image display, so as to produce a color image display (Yamaguchi, col. 1, ll. 9-12),

a medium being injected and sealed between a pair of substrates at least one of which is transparent (Yamaguchi, col. 11, ll. 39-46),

the medium changing in magnitude of optical anisotropy upon application of voltage (Yamaguchi, Abstract; col. 1, ll. 45-50).

Yamaguchi however fails to teach different voltages being applied to the display elements so as to display the colors required to produce a color image display with an identical gradation, wherein voltages differing in voltage values are applied, so that a first color corresponding to a first voltage has a first gradation and a second color different from said first color corresponding to a second voltage different from said first voltage has said first gradation to correct a wavelength dispersion of said optical anisotropy of the medium.

Someya discloses an image data processing device, analogous in art with that of Yamaguchi, comprising different voltages being applied to the display elements so as to display the colors required to produce a color image display with an identical gradation (Someya, col. 3, ll. 42-col. 4, ll. 3, voltage for correcting an image data representing a gray-scale level of an image to be displayed; col. 6, ll. 44-67, higher voltage and corrected voltages; col. 10, ll. 34-64, application voltage to correct an image transmittance; col. 45, ll.19-28, red, green and blue color),

wherein voltages differing in voltage values are applied, so that a first color corresponding to a first voltage has a first gradation and a second color different from said first color corresponding to a second voltage different from said first voltage has said first gradation, wherein the first voltage and the second voltage are selected according to transmittance of said optical anisotropy of the medium that corrects wavelength dispersion (Someya, col. 18, ll. 35-39, correction voltages; col. 3, ll. 42-col. 4, ll. 3, voltage for correcting an image data representing a gray-scale level of an image to be displayed; col. 15, ll. 28-col. 16, ll. 8, applied voltage to correct transmittance, therefore, wavelength dispersion).

At the time the invention was made it would have been obvious to one having ordinary skill in the art to modify the image display device of Yamaguchi to comprise different voltages being applied to the display elements so as to display the colors required to produce a color image display with an identical gradation, wherein voltages differing in voltage values are applied, so that a first color corresponding to a first voltage has a first gradation and a second color different from said first color corresponding to a second voltage different from said first voltage has said first gradation to correct a wavelength dispersion of said optical anisotropy of the medium, as taught by Someya.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to optimize a change in transmittance of a liquid crystal display (Someya, col. 1, ll. 8-20).

Claim 17 is rejected as being dependent on rejected claim 4 as discussed above and further, Yamaguchi as modified by Someya teaches wherein the colors required to produce a color image display are the three colors of RGB (Yamaguchi, col. 13, ll. 37-40).

Claim 18 is rejected as being dependent on rejected claim 4 as discussed above and further, Yamaguchi as modified by Someya teaches wherein the medium is comprised by molecules having an ordered structure less than the optical wavelengths either under applied voltage or in absence of applied voltage (Yamaguchi ‘109, col. 9, ll. 51-58).

Claim 22 is rejected as being dependent on rejected claim 15 as discussed above and further Yamaguchi as modified by Someya teaches wherein the medium exhibits optical isotropy in absence of an electrical field and exhibits optical anisotropy under applied voltage (Yamaguchi, col. 3, ll. 21-35).

Claims 2, 8, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. (US 6,266,109) as modified by Someya et al. (US 7,034,788) and further in view of Takeuchi et al. (US 2001/0024178).

Claim 2 is rejected as being dependent on rejected claim 1 as discussed above and further, Yamaguchi as modified by Someya however fails to teach wherein the

voltages applied are determined based on a lookup table which associates gradations of an image displayed by the display apparatus with the voltages applied to the display elements.

Takeuchi discloses a display system, analogous in art with that of Yamaguchi as modified by Someya, wherein the voltages applied are determined based on a lookup table which associates gradations of an image displayed by the display apparatus with the voltages applied to the display elements (Takeuchi, pg. 22, par. 378-379).

At the time the invention was made, it would have been obvious to one having ordinary skill in the art to modify the display device of Yamaguchi as modified by Someya wherein the voltages applied are determined based on a lookup table which associates gradations of an image displayed by the display apparatus with the voltages applied to the display elements, as taught by Takeuchi.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been a display with memory and table creation for storing luminance correction data for correcting a luminance dispersion of the display (Takeuchi, pg. 3, par. 37).

Claim 8 is rejected as being dependent on rejected claim 1 as discussed above and further, Yamaguchi as modified by Someya however fails to teach wherein the medium is comprised by molecules showing a cubic phase or a smectic D phase.

Takeuchi discloses a display system, analogous in art with that of Yamaguchi as modified by Someya, wherein the medium is comprised by molecules showing a cubic phase or a smectic D phase (Takeuchi, pg. 8, par. 170).

At the time the invention was made, it would have been obvious to one having ordinary skill in the art to modify the display device of Yamaguchi as modified by Someya wherein the medium is comprised by molecules showing a cubic phase or a smectic D phase, as taught by Takeuchi.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been the addition of strength, toughness, and durability (Takeuchi, pg. 8, par. 170).

Claim 16 is rejected as being dependent on rejected claim 4 as discussed above and further, Yamaguchi as modified by Someya however fails to teach wherein the voltages applied are determined based on a lookup table which associates gradations of an image displayed by the display apparatus with the voltages applied to the display elements.

Takeuchi discloses a display system, analogous in art with that of Yamaguchi as modified by Someya, wherein the voltages applied are determined based on a lookup table which associates gradations of an image displayed by the display apparatus with the voltages applied to the display elements (Takeuchi, pg. 22, par. 378-379).

At the time the invention was made, it would have been obvious to one having ordinary skill in the art to modify the display device of Yamaguchi as modified by

Someya wherein the voltages applied are determined based on a lookup table which associates gradations of an image displayed by the display apparatus with the voltages applied to the display elements, as taught by Takeuchi.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been a display with memory and table creation for storing luminance correction data for correcting a luminance dispersion of the display (Takeuchi, pg. 3, par. 37).

Claims 5, 20, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. (US 6,266,109) as modified by Someya et al. (US 7,034,788) and further in view of Yoo et al. (US 6,636,289).

In reference to claim 5, Yamaguchi teaches a display apparatus, comprising: display elements including a medium injected and sealed between a pair of substrates at least one of which is transparent (Yamaguchi, col. 11, ll. 39-46),

the medium changing in magnitude of optical anisotropy upon application of voltage (Yamaguchi, Abstract; col. 1, ll. 45-50),

each of the display elements containing colors to produce a color image display, so as to produce a color image display (Yamaguchi, col. 1, ll. 9-12),

Yamaguchi however fails to teach different voltages being applied to the display elements so as to display the colors required to produce a color image display with an identical gradation, wherein voltages differing in voltage values are applied, so that a

first color corresponding to a first voltage has a first gradation and a second color different from said first color corresponding to a second voltage different from said first voltage has said first gradation to correct a wavelength dispersion of said optical anisotropy of the medium.

Someya discloses an image data processing device, analogous in art with that of Yamaguchi, comprising different voltages being applied to the display elements so as to display the colors required to produce a color image display with an identical gradation (Someya, col. 3, ll. 42-col. 4, ll. 3, voltage for correcting an image data representing a gray-scale level of an image to be displayed; col. 6, ll. 44-67, higher voltage and corrected voltages; col. 10, ll. 34-64, application voltage to correct an image transmittance; col. 45, ll.19-28, red, green and blue color),

wherein voltages differing in voltage values are applied, so that a first color corresponding to a first voltage has a first gradation and a second color different from said first color corresponding to a second voltage different from said first voltage has said first gradation, wherein the first voltage and the second voltage are selected according to transmittance of said optical anisotropy of the medium that corrects wavelength dispersion (Someya, col. 18, ll. 35-39, correction voltages; col. 3, ll. 42-col. 4, ll. 3, voltage for correcting an image data representing a gray-scale level of an image to be displayed; col. 15, ll. 28-col. 16, ll. 8, applied voltage to correct transmittance, therefore, wavelength dispersion).

At the time the invention was made it would have been obvious to one having ordinary skill in the art to modify the image display device of Yamaguchi to comprise

different voltages being applied to the display elements so as to display the colors required to produce a color image display with an identical gradation, wherein voltages differing in voltage values are applied, so that a first color corresponding to a first voltage has a first gradation and a second color different from said first color corresponding to a second voltage different from said first voltage has said first gradation to correct a wavelength dispersion of said optical anisotropy of the medium, as taught by Someya.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to optimize a change in transmittance of a liquid crystal display (Someya, col. 1, ll. 8-20).

Yamaguchi as modified by Someya however fails to teach wherein the medium exhibits optical anisotropy in absence of an electric field and exhibits optical isotropy under applied voltage.

Yoo discloses a liquid crystal display medium, analogous in art with that of Yamaguchi as modified by Someya, wherein the medium exhibits optical anisotropy in absence of an electric field and exhibits optical isotropy under applied voltage (Yoo, col. 1, ll. 19-30; Fig. 24A, col. 16, ll. 20-34).

At the time the invention was made it would have been obvious to one having ordinary skill in the art to modify the liquid crystal medium of Yamaguchi as modified by Someya wherein the medium exhibits optical anisotropy in absence of an electric field and exhibits optical isotropy under applied voltage, as taught by Yoo.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to achieve a fast response time (Yoo, col. 6, ll. 1-7).

Claim 20 is rejected as being dependent on rejected claim 5 as discussed above and further, Yamaguchi as modified by Someya and Yoo teaches wherein the colors required to produce a color image display are three colors of RGB (Yamaguchi, col. 13, ll. 37-40).

Claim 21 is rejected as being dependent on rejected claim 5 as discussed above and further, Yamaguchi as modified by Someya and Yoo teaches wherein the medium is comprised by molecules having an ordered structure less than optical wavelengths either under applied voltage or in the absence of applied voltage (Yamaguchi, col. 9, ll. 51-58).

Claim 23 is rejected as being dependent on rejected claim 15 as discussed above and further, Yamaguchi as modified by Someya however fails to teach wherein the medium exhibits optical anisotropy in absence of an electric field and exhibits optical isotropy under applied voltage.

Yoo discloses a liquid crystal display medium, analogous in art with that of Yamaguchi as modified by Someya, wherein the medium exhibits optical anisotropy in absence of an electric field and exhibits optical isotropy under applied voltage (Yoo, col. 1, ll. 19-30; Fig. 24A, col. 16, ll. 20-34).

At the time the invention was made it would have been obvious to one having ordinary skill in the art to modify the liquid crystal medium of Yamaguchi as modified by Someya, wherein the medium exhibits optical anisotropy in absence of an electric field and exhibits optical isotropy under applied voltage, as taught by Yoo.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to achieve a fast response time (Yoo, col. 6, ll. 1-7).

Claims 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. (US 6,266,109) as modified by Someya et al. (US 7,034,788) and further in view of Haertling (US 4,636,786).

Claim 7 is rejected as being dependent on rejected claim 1 as discussed above and further, Yamaguchi as modified by Someya however fails to teach wherein the medium has an ordered structure showing cubic symmetry.

Haertling discloses a display device medium, analogous in art with that of Yamaguchi as modified by Someya, wherein the medium has an ordered structure showing cubic symmetry (Haertling, col. 2, ll. 65-col. 3, ll. 6).

At the time the invention was made, it would have been obvious to one having ordinary skill in the art to modify the display device medium of Yamaguchi as modified by Someya wherein the medium has an ordered structure showing cubic symmetry, as taught by Haertling.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to achieve high contrast, increased brightness, wide viewing angle, and reduced operating voltages (Haertling, col. 1, ll. 7-17).

Claim 11 is rejected as being dependent on rejected claim 1 as discussed above and further, Yamaguchi as modified by Someya however fails to disclose wherein the medium is comprised by a liquid crystal fine particle dispersion system showing any one of a micelle phase, a reverse micelle phase, a sponge phase, and a cubic phase.

Haertling discloses display device medium, analogous in art with that of Yamaguchi as modified by Someya, wherein the medium is comprised by a liquid crystal fine particle dispersion system showing any one of a micelle phase, a reverse micelle phase, a sponge phase, and a cubic phase (Haertling, col. 5, ll. 43-45; col. 2, ll. 65-68).

At the time the invention was made, it would have been obvious to one having ordinary skill in the art to modify the display device medium of Yamaguchi as modified by Someya wherein the medium is comprised by a liquid crystal fine particle dispersion system showing any one of a micelle phase, a reverse micelle phase, a sponge phase, and a cubic phase, as taught by Haertling.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been a display with increased properties of brightness, greater contrast, and improved resolution (Haertling, col. 5, ll. 6-9).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. (US 6,266,109) as modified by Someya et al. (US 7,034,788) and further in view of Lavretovich et al. (US 6,570,632).

Claim 10 is rejected as being dependent on rejected claim 1 as discussed above and further, Yamaguchi as modified by Someya however fails to teach wherein the medium is comprised by a lyotropic liquid crystal showing any one of a micelle phase, a reverse micelle phase, a sponge phase, and a cubic phase.

Lavretovich discloses a liquid crystal cell, analogous in art with that of Yamaguchi as modified by Someya, wherein the medium is comprised by a lyotropic liquid crystal showing any one of a micelle phase, a reverse micelle phase, a sponge phase, and a cubic phase (Lavretovich, col. 2, ll. 1-17; micelle phase).

At the time the invention was made, it would have been obvious to one having ordinary skill in the art to modify the liquid crystal cell of Yamaguchi as modified by Someya to comprise a lyotropic liquid crystal showing any one of a micelle phase, a reverse micelle phase, a sponge phase, and a cubic phase, as taught by Lavretovich.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to achieve a perpendicular alignment as the preferred orientation (Lavretovich, col. 1, ll. 53-67).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. (US 6,266,109) as modified by Someya et al. (US 7,034,788), and further in view of Kenji (Patent Abstracts Of Japan, Publication number 09-243984).

Claim 12 is rejected as being dependent on rejected claim 1 as discussed above and further, Yamaguchi as modified by Someya however fails to teach wherein the medium is comprised by a dendrimer.

Kenji discloses a liquid crystal element, analogous in art with that of Yamaguchi as modified by Someya, wherein the medium is comprised by a dendrimer (Kenji, Abstract).

At the time the invention was made it would have been obvious to one having ordinary skill in the art to modify the liquid crystal medium of Yamaguchi as modified by Someya to comprise a dendrimer, as taught by Kenji.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to lower the driving voltage (Kenji, Abstract).

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. (US 6,266,109) as modified by Someya et al. (US 7,034,788) and further in view of Sato et al. (US 2003/0039770).

Claims 13 and 14 are rejected as being dependent on rejected claim 1 as discussed above and further, Yamaguchi as modified by Someya however fails to teach

wherein the medium is comprised by molecules showing a clolesteric blue phase, and showing a smectic blue phase.

Sato discloses a liquid crystal display, analogous in art with that of Yamaguchi as modified by Someya, wherein the medium is comprised by molecules showing a clolesteric blue phase, and a smectic blue phase (Sato, pg. 5, par. 44)

At the time the invention was made, it would have been obvious to one having ordinary skill in the art to modify the liquid crystal display of Yamaguchi as modified by Someya, wherein the medium is comprised by molecules showing a clolesteric blue phase, and showing a smectic blue phase, as taught by Sato.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to broaden the temperature range of the display medium (Sato, pg. 5, par. 44).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. (US 6,266,109) as modified by Someya et al. (US 7,034,788) and Yoo et al. (US 6,636,289), and further in view of Takeuchi et al. (US 2001/0024178).

Claim 19 is rejected as being dependent on rejected claim 5 as discussed above and further, Yamaguchi as modified by Someya and Yoo however fails to teach wherein the voltages applied are determined based on a lookup table which associates gradations of an image displayed by the display apparatus with the voltages applied to the display elements.

Takeuchi discloses a display system, analogous in art with that of Yamaguchi as modified by Someya and Yoo, wherein the voltages applied are determined based on a lookup table which associates gradations of an image displayed by the display apparatus with the voltages applied to the display elements (Takeuchi, pg. 22, par. 378-379).

At the time the invention was made, it would have been obvious to one having ordinary skill in the art to modify the display device of Yamaguchi as modified by Someya and Yoo wherein the voltages applied are determined based on a lookup table which associates gradations of an image displayed by the display apparatus with the voltages applied to the display elements, as taught by Takeuchi.

As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been a display with memory and table creation for storing luminance correction data for correcting a luminance dispersion of the display (Takeuchi, pg. 3, par. 37).

Response to Arguments

Applicant's arguments filed 12/12/2011 have been fully considered but they are not persuasive.

Applicants argue on pages 2-5 of applicant's response that the cited prior art of record fails to teach "…according to a transmittance of the optical anisotropy of the medium that corrects wavelength dispersion". However, the limitation, "that corrects wavelength dispersion", does not appear to define the structure of the apparatus.

Rather, "that corrects wavelength dispersion" only describes a function, and the cited prior art of Someya et al. is capable of correcting wavelength dispersion. Someya teaches correction voltages for correcting an image data representing a grey-scale level of an image to be displayed (Someya, col. 18, ll. 35-39; col. 3, ll. 42-col. 4, ll. 3), and applied voltages to correct transmittance (Someya, col. 15, ll. 28-col. 16, ll. 8). Someya further teaches an Image Data Processing Module (Someya, Fig. 45), and teaches calculating an amount of change in luminance for corrective processing (Someya, col. 4, ll. 10-22). Therefore, it would have been within the purview of one of ordinary skill in the art wherein voltages differing in voltage values are applied, wherein a first voltage and a second voltage are selected according to a function, the function being the transmittance of said optical anisotropy of the medium that corrects wavelength dispersion. It is believed that the broadly claimed structures are still met by Someya.

Applicants argue on page 6 of applicant's response that there is no motivation to combine the cited prior art of Yamaguchi and Someya. In response to applicant's argument that there is no teaching, suggestion, or motivation to combine the references, the examiner recognizes that obviousness may be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007). In this case, Someya teaches an image data

processing device, analogous in art with that of Yamaguchi, wherein it would have been obvious to one having ordinary skill in the art to modify the display device of Yamaguchi to comprise different voltages being applied to the display elements so as to display the colors required to produce a color image display with an identical gradation, wherein voltages differing in voltage values are applied, so that a first color corresponding to a first voltage has a gradation and a second color different from said first color corresponding to a second voltage different from said first voltage has said first gradation to correct a wavelength dispersion of said optical anisotropy of the medium, as taught by Someya in the claim rejections discussed above. As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to optimize a change in transmittance of a liquid crystal display (Someya, col. 1, ll. 8-20).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES V. HICKS whose telephone number is (571)270-7535. The examiner can normally be reached on Monday-Thursday from 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Beck, can be reached on 571-272-7765. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://portal.uspto.gov/external/portal. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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